UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,551	11/09/2000	Madhur Kohli	Kohli 1-1-5-1	5405

44190	7590	05/06/2005

WALTER W. DUFT
LAW OFFICES OF WALTER W. DUFT
8616 MAIN ST
SUITE 2
WILLIAMSVILLE, NY 14221

EXAMINER
KLINGER, SCOTT M

ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 January 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22,24-28,30 and 31* is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22,24-28,30 and 31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All   b)☐ Some * c)☐ None of:

  1.☐ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claims 1-22, 24-28, 30, and 31 are pending.

Response to Arguments

Applicant's arguments, with respect to the rejection of claim 6 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made, see below.

Applicant's arguments with respect to claims 1-22, 24-28, 30, and 31 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 7-12, 15, 16, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaid et al. (U.S. Patent Number 6,502,131, hereinafter, "Vaid") in view of Durham et al. (U.S. Patent Number 6,601,082, hereinafter "Durham"). Vaid discloses a directory enabled policy management tool for intelligent traffic management. Vaid shows,

In referring to claims 1 and 19, Vaid shows substantial features of the claimed invention, including:

- One or more policy proxies associated with said network elements; said policy proxies are configured to implement actions at network elements they represent:

"5) Policy Proxy: This is a software module which can "push" policies (i.e. configure enforcement policies) on devices which are not "policy aware". A policy aware device is one that is capable of contacting a Policy Decision Engine via a policy Transaction Protocol. The present device can support QoS configuration of Cisco and Bay network devices. The communication mechanism will be SNMP SET's and or HTTP and or CLI and/or Telnet." (Vaid, col. 28, lines 26-34)

- A central policy processing point in communication with said policy proxies:

  "The present system includes a policy manager 1801 that oversees a network. The policy manager includes directory access and a resolution engine 1803. The directory access and resolution engine interface with policy-driven services 1805. These engines monitor and control enablement and enforcement agents 1813." (Vaid, col. 26, line 65 – col. 27, line 3)

- Wherein said policy proxies are configured to notify said policy processing point of events occurring in said network:

  The policy proxies receive their policies from the policy manager that oversees the network

- Said policy processing point is run-time programmable with one or more policies to process said events and to notify one or more of said policy proxies of actions to be taken in response to said events:

  "The traffic management cycle is depicted as a continuous cycle, which includes a monitoring phase 301, a creating/applying policy phase 303, and a reporting/alarming phase 305, but is not limited to these cycles. That is, these cycles can be separated or combined depending upon the application. By way of this cycle, the tool can adapt to any changes to the networking system according to the present invention." (Vaid, col. 10, lines 56-63)

However, Vaid is silent as to the policy definition language, Vaid does not show the 5 types of events in the claims. Nonetheless this feature is well known in the art and would have been an obvious addition to the system disclosed by Vaid as evidenced by Durham.

In analogous art, Durham discloses a system and method for managing actions provided by a

network using a policy tree. Durham shows primitive events, basic events, complex events, internal events, and policy defined events can used to generate policies (Durham, Fig. **3b**).

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of altering the system of Vaid so as to provide a policy tree, such as taught by Durham, in order to provide a high level of control over the network.

In referring to claim 2, Vaid in view of Durham shows,

- Said events are associated with event contexts and said policies are defined to produce actions in response to said events based on policy defined rules:

  "These terms include, among others, "rules" and "classes" and "policies." Rules can be created for very specific groups of flows or more general groups of flows, which are commonly all the stuff that transmits to and from a link to a gateway point. Groups of flows are also referred to as traffic classes, but are not limited to such classes. Classes also can be defined by source, destination, application, file types, URLs, and other features. Policies can be specified to control traffic flows in terms of overall bandwidth guarantees, bandwidth limits, priority of service, how individual sessions within a class are serviced or admitted, and other aspects. The present tool also has intelligent policy validation that prevents users from defining any contradictory or ambiguous rules."
  (Vaid, col. 16, line 6 – col. 17, line 10)

In referring to claim 3, Vaid in view of Durham shows,

- Said events include one or more of primitive events representing a single network element event, basic events representing a group of primitive events occurring within a predetermined time window, complex events representing an accumulation of primitive events over time, internal events generated in response to network elements failing to take required actions, and policy defined events generated by said policies according to policy defined event rules:

  Vaid, col. 16, line 6 – col. 17, line 10 (see full quote above)

In referring to claim 7, Vaid in view of Durham shows,

- Said policy proxies are configured to store event registration information identifying policies that have registered for selected events:

  "In yet an alternative aspect, the present monitoring or profiling tool has a save feature for storing the chart or plot. In particular, the present tool can save snapshots of measurements to a disk file or the like. As merely an example, the present tool saves snapshots using the following sequence of steps, which should not be construed as limiting: Go to view/log in the tool to configure a log file; Add measurements to the file and start and/or stop logging." (Vaid, col. 22, lines 30-39)

In referring to claim 8, Vaid in view of Durham shows,

- Said policy processing point includes one or more of an event registration unit for registering events processed by said policy processing point with said policy proxies, an event distribution component for distributing event registration information to said policy proxies, an action/condition handler, and an action distribution component:

  Vaid, col. 22, lines 30-39 (see full quote above)

In referring to claim 9, Vaid in view of Durham shows,

- One or more distributed policy processing points associated with said policy proxies and adapted to process local events received from said policy proxies:

  Policy proxies are distributed policy processing points adapted to process local events

In referring to claim 10, Vaid in view of Durham shows,

- An aggregator for routing action commands from said policy processing point to said policy proxies:

  A system in which a policy proxy enforces policies from a policy processing point inherently implies routing action commands from said policy processing point to said policy proxies

In referring to claims 11 and 12, Vaid in view of Durham shows,

- Said policy proxies are identified in said policies using domain information; said system includes a directory server that maintains a domain registry that associates said domain information with policy proxy addresses; said directory server being responsive to domain resolution queries from said aggregator:

  The system of Vaid is intended for use on the Internet: *"As merely an example, the present invention is implemented on a wide area network of computers or workstations such as the Internet."* (Vaid, col. 1, lines 23-26), the Internet inherently implies domain information and domain resolution of the network elements with domain information centrally stored in a domain registry

In referring to claim 15, Vaid in view of Durham shows,

- An administrative module implementing a graphical user interface for writing policies run by said policy processing point.

  Vaid, Figs. **4-7** show an administrative module implementing a graphical user interface for writing policies run by said policy processing point

In referring to claim 16, Vaid in view of Durham shows,

- An administrative module implementing a graphical user interface for tracing policies by said policy processing point, said interface being configured to allow users to select actions and trigger events involved in said policies, and to trace sources that cause said actions or trigger said events:

  Vaid, Figs. **4-7** show an administrative module implementing a graphical user interface for tracing policies by said policy processing point

In referring to claim 20, Vaid in view of Durham shows,

- A policy monitor configured to detect rule conflicts in said policies based on a specified set of constraints on concurrent execution of certain actions:

  "The present tool also has intelligent policy validation that prevents users from defining any contradictory or ambiguous rules. " (Vaid, col. 17, lines 8-10)

Claims 21, 22, 24-28, 30, and 31 rejected under 35 U.S.C. 103(a) as being unpatentable over Natarajan et al. (U.S. Patent Number 6,584,502, hereinafter "Natarajan") in view of Durham. Natarajan discloses a technique for providing automatic event notification of changing network conditions to network elements in an adaptive, feedback-based data network. Natarajan shows,

In referring to claim 21, Natarajan shows substantial features of the claimed invention, including:

- Configuring a policy execution space at run time to run one or more policies:

  "the policies may be dynamically re-configured during run-time" (Natarajan, col. 14, lines 62-3)

- Monitoring events occurring at said network elements:

  "The event notification system comprises at least one event supplier entity for monitoring at least one data source for desired information relating to updated network conditions. " (Natarajan, col. 2, lines 53-56)

- Processing said events at a central policy processing point by applying said one or more policies; said processing including applying policy rules to said events to determine actions to be taken in response to said events:

  "Each policy contains a specific set of rules for analyzing specific information from selected network elements, and for generating updated control information in response to the analysis of the gathered information. The policy may include protocol specific rules, business logic rules, event notification rules, etc. " (Natarajan, col. 14, lines 56-61), a policy system that has rules inherently implies applying said rules

- Controlling one or more of said network elements according to said actions:

   "The feedback-based adaptive network of the present invention monitors current conditions of local and/or remote network elements and dynamically adjusts network control parameters based upon analysis of the monitored network elements." (Natarajan, col. 7, lines 5-9)

However, Natarajan is silent as to the policy definition language, Natarajan does not show the 5 types of events in the claims. Nonetheless this feature is well known in the art and would have been an obvious addition to the system disclosed by Natarajan as evidenced by Durham.

In analogous art, Durham discloses a system and method for managing actions provided by a network using a policy tree. Durham shows primitive events, basic events, complex events, internal events, and policy defined events can used to generate policies (Durham, Fig. **3b**).

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of altering the system of Natarajan so as to provide a policy tree, such as taught by Durham, in order to provide a high level of control over the network.

In referring to claim 22, Natarajan in view of Durham shows,

- Said events are associated with event contexts and said policies are programmed to produce actions in response to said events based on said policy rules:

   Natarajan, col. 7, lines 5-9 (see full quote above)

In referring to claim 24, Natarajan in view of Durham shows,

- One or more of aggregating primitive events into basic or complex events, generating internal events, registering events to associate them with said policies, and filtering events prior to processing them at said policy processing point.

   Natarajan, Fig. 7 shows the event registration procedure

In referring to claim 25, Natarajan in view of Durham shows,

- Defining said network elements according to domain information in said policies and using domain resolution to determine which network elements to advise of said actions. The system of Natarajan is intended for use on the Internet: *"Various types of computer networks include internetworks (e.g., the Internet), local area networks (LANs), metropolitan area networks (MANs), and wide area networks (WANs)."* (Natarajan, col. 1, lines 64-67), the Internet inherently implies domain information and domain resolution of the network elements

In referring to claim 26, Natarajan in view of Durham shows,

- Said domain information is centrally stored in a domain registry:
The system of Natarajan is intended for use on the Internet: *Natarajan, col. 1, lines 64-67* (see full quote above), the Internet inherently implies domain information centrally stored in a domain registry

In referring to claim 27, Natarajan shows substantial features of the claimed invention, including:

- A data storage medium:
"A software or software/hardware hybrid of the feedback-based adaptive network element of this invention is preferably implemented on a general-purpose programmable machine selectively activated or reconfigured by a computer program stored in memory." (Natarajan, col. 11, lines 35-39)
- Program means recorded on said data storage medium for configuring a policy execution space at runtime to run one or more policies:
"the policies may be dynamically re-configured during run-time" (Natarajan, col. 14, lines 62-3)
- Program means recorded on said data storage medium for monitoring events occurring at said network elements:

"The event notification system comprises at least one event supplier entity for monitoring at least one data source for desired information relating to updated network conditions." (Natarajan, col. 2, lines 53-56)

- Program means recorded on said data storage medium for processing said events at a central policy processing point by applying said one or more policies; said processing including applying policy rules to said events to determine actions in response to said events:

"Each policy contains a specific set of rules for analyzing specific information from selected network elements, and for generating updated control information in response to the analysis of the gathered information. The policy may include protocol specific rules, business logic rules, event notification rules, etc." (Natarajan, col. 14, lines 56-61), a policy system that has rules inherently implies applying said rules

- Program means recorded on said data storage medium for advising one or more of said network elements of said actions:

"The event notification system further comprises at least one event handler entity for notifying at least one network element of an event relating to updated network conditions." (Natarajan, col. 2, lines 56-59)

However, Natarajan is silent as to the policy definition language, Natarajan does not show the 5 types of events in the claims. Nonetheless this feature is well known in the art and would have been an obvious addition to the system disclosed by Natarajan as evidenced by Durham.

In analogous art, Durham discloses a system and method for managing actions provided by a network using a policy tree. Durham shows primitive events, basic events, complex events, internal events, and policy defined events can used to generate policies (Durham, Fig. **3b**).

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of altering the system of Natarajan so as to provide a policy tree, such as taught by Durham, in order to provide a high level of control over the network.

In referring to claim 28, Natarajan in view of Durham shows,

- Said events are associated with event contexts and said policies are programmed to produce actions in response to said events based on said policy rules:
  Natarajan, col. 7, lines 5-9 (see full quote above)

In referring to claim 30, Natarajan in view of Durham shows,

- Program means recorded on said data storage medium for aggregating primitive events into basic or complex events, generating internal events, performing one or more of registering events to associate them with said policies, and filtering events prior to processing them at said policy processing point.
  Natarajan, Fig. 7 shows the event registration procedure

In referring to claim 31, Natarajan in view of Durham shows,

- Program means recorded on said data storage medium for using domain resolution to identify policy proxies defined by way of domain information in said policies:
  The system of Natarajan is intended for use on the Internet: *Natarajan, col. 1, lines 64-67* (see full quote above), the Internet inherently implies domain information

---

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaid in view of Durham and in view of Stevens et al. (U.S. Patent Number 6,539,425, hereinafter "Stevens").

In referring to claim 5, although Vaid in view of Durham shows substantial features of the claimed invention, Vaid in view of Durham does not show a policy server including an event filter. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Vaid in view of Durham as evidenced by Stevens.

In analogous art, Stevens discloses policy-enabled communications networks. Stevens shows a policy server including an event filter: *"In one illustrative embodiment of the present invention,*

both simple and complex policy mechanisms are included in a new architecture for policy-enabled devices. Such policy-enabled devices advantageously contain a Data Access Client Module (DACM) and Policy Interpreter and Processor (PIP). The DACM illustratively establishes a data path between a network device and data stores containing device configuration information, and simple policy definitions, e.g., filter tables, and the like." (Stevens, col. 4, lines 41-49)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Vaid in view of Durham so as to use an event filter, such as taught by Stevens, in order to provide simple policy definitions.

In referring to claim 6, Vaid in view of Durham and in view of Stevens shows,

- Said event filter is configured to perform one or more of: processing events into a device independent format, aggredating primitive events into basic or complex events, and raising internal events that reflect non-occurrence of expected events:
  This feature is inherently implied in a system whose policies describe primitive events , basic events, complex events, and internal events

---

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vaid in view of Durham and in view of Rail (U.S. Patent Number 6,275,844, hereinafter "Rail"). Although Vaid in view of Durham shows substantial features of the claimed invention, Vaid in view of Durham does not show restarting the policy proxies when they become non-operational. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Vaid in view of Durham as evidenced by Rail.

In analogous art, Rail discloses automatically maintaining applications in a computer system using a check in time. Rail shows a method of monitoring a server and restarting it when it becomes non-operational: *"a system is provided for maintaining applications in a computer system. The maintenance system includes a database which is operable to store a check-in entry associated with an application and configuration information for the application. A processor is*

coupled to the database. The processor is operable to determine whether a check-in time for the application associated with the check-in entry is later than a specified time, deactivate the application associated with the check-in entry if the check-in time is later than the specified time, and start the application associated with the check-in entry if the application is not running."
(Rail, col. 1, lines 47-57)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Vaid in view of Durham so as to restart the policy proxies when they become non-operational, such as taught by Rail, in order to automatically maintain the servers without manual intervention.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vaid in view of Durham and in view of Chao et al. (U.S. Patent Number 6,393,485, hereinafter "Chao"). Although Vaid in view of Durham shows substantial features of the claimed invention, Vaid in view of Durham does not show a failover and upgrade system. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Vaid in view of Durham as evidenced by Chao.

In analogous art, Chao discloses a method and apparatus for managing clustered computer systems. Chao shows: *"The system clustering product extends small clusters to multi-clusters of two or more nodes. Further, the present cluster system supports resource group failover among any two nodes in a larger cluster of two or more nodes."* (Chao, col. 5, lines 18-21)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Vaid in view of Durham so as to provide failover support, such as taught by Chao, in order to increase the reliability of the system.

In referring to claims 17 and 18, although Vaid shows substantial features of the claimed invention, Vaid does not explicitly show a debugging tool. Nonetheless this feature is well known in the art and would have been an obvious addition to the system disclosed by Vaid.

Although a debugging tool is not mentioned in the specification of Vaid, Vaid does mention validation policies: *"The present tool also has intelligent policy validation that prevents users from defining any contradictory or ambiguous rules."* (Vaid, col. 17, lines 8-10). Intelligent validation would in effect, debug policies.

A person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Vaid so as to provide a debugging tool, in order to prevent poor policies from being written.
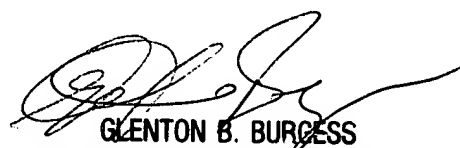
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott M. Klinger whose telephone number is (571) 272-3955. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott M. Klinger
Examiner
Art Unit 2153

smk

GLENTON B. BURGESS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100